

REQUEST FOR RECONSIDERATION

Reconsideration of the present application is respectfully requested.

Claims 1-6 are pending in this application. Claim 1 is in independent form. It is gratefully acknowledged that the Examiner found allowable subject matter in Claim 4.

The Examiner noted that Claim 1 may be drafted to invoke 35 U.S.C. §112, sixth paragraph. The Examiner rejected Claim 1 under 35 U.S.C. §112, second paragraph, for indefiniteness. The Examiner rejected Claims 1 and 3 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent No. 6,800,071 to McConnell et al. (hereinafter *McConnell*). Also under 35 U.S.C. §103(a), the Examiner rejected Claim 2 as being unpatentable over *McConnell*, Claim 5 as being unpatentable over *McConnell* in view of U.S. Patent No. 6,572,585 to *Choi*, and Claim 6 as being unpatentable over *McConnell* in view of U.S. Patent No. 4,773,900 to *Cochran*.

Please amend Claim 1, as shown. No new matter has been added.

Regarding §112, sixth paragraph, the Examiner indicated that Claim 1 may be recited in an attempt to invoke this section of 35 U.S.C., in view of the “power supply means for” recitation in line 7. However, since Applicants do not intend to invoke §112, sixth paragraph in this recitation, it is respectfully noted that “means” has been deleted from this recitation, as shown herein. Accordingly, Applicants respectfully request that the Examiner not treat this recitation in Claim 1 as invoking §112, sixth paragraph.

Regarding the §112, second paragraph rejection, it was alleged that “a hollow cylindrical type push plate case inserted into the injector receiving space at the rear end of the syringe, for the piston to pass therethrough,” in lines 13-14 of Claim 1 is indefinite. In response, Applicants

have changed “therethrough” to --through the rear end of the syringe--, as shown herein. This amendment clarifies through what the piston passes, and it is respectfully asserted that the amendment cures the rejection. Accordingly, withdrawal of the §112, second paragraph rejection is respectfully requested.

Regarding the §103(a) rejection of Claims 1 and 3, the Examiner alleged that *McConnell* renders Claims 1 and 3 unpatentable. In response, Applicants respectfully traverse, and respectfully assert that the finality of the Office Action was premature, in view of the following. Independent Claim 1 will be discussed at this time.

Claim 1 recites, *inter alia*, a rotary shaft having a non-circular section and a predetermined length. It was previously argued that FIG. 5 at 501, and every other element shown in FIG. 5 illustrates a tubular shaft, and fails to illustrate any non-circular section, as claimed. It was also argued that neither does the description related to FIG. 5 provide any teaching of a non-circular section of the rotary shaft.

In response, the Examiner alleged in the bridging paragraph on pages 4-5 of the Office Action that it would have been obvious to make the shaft in FIG. 5 non-tubular, as a matter of mere design choice. Particularly, the Examiner noted that in paragraph [0033], the Specification states that although the rotary shaft and the coupling hole are in the form of a hexagon, they may be in the form of one of lots of polygons, or in one of other forms. Also, the Examiner contended that no advantage, particular purpose or solution has been given for the hexagonal structure.

However, it is respectfully submitted that the Examiner is incorrect in regards to this obviousness contention because the rotary shaft must be non-circular in order for the turning operation to be realized. Specifically, the Specification at FIG. 8 illustrates a hexagonal structure for the rotary shaft (141b), and the aforementioned paragraph [0033] gives alternatives such as a

type of polygon. The perimeters of these structures provide edges that fit into the larger-diameter coupling hole (152), to cause a rotation of the shaft. Indeed, the Specification states the following:

The disk part 141 has a hexagonal coupling hole 141b formed at the center thereof to be axially coupled with the hexagonal rotary shaft 152. The hexagonal rotary shaft 152 is coupled with the coupling hole 141b not in an idly rotating way but in a forwardly or backwardly moving way (paragraph [0027]).

As a result, when the hexagonal rotary shaft 152 is rotated together with the rotation of the motor 151, the disk part 141 of the push plate assembly 140 is also rotated (paragraph [0028]).

Accordingly, Applicants respectfully assert that the Examiner incorrectly alleged that no advantage, particular purpose or solution has been given for the non-circular structure of the rotary shaft, because the shaft and the coupling hole must be axially coupled and have a non-circular shape in order for the shaft to rotate inside the coupling hole. If the shaft and coupling hole were circular, as in *McConnell*, then the shaft and the coupling hole would have smooth surfaces, and there would be no edges or corners of the coupling hole to which the rotary shaft could be axially coupled, in order for the rotary shaft to rotate.

Moreover, it would not have been obvious to make the *McConnell* rotary shaft (501) non-circular, because the drive mechanism “is cylindrically shaped” (col. 7, line 1), partly so that it can rotate a screw mechanism (see also, FIG. 5). Specifically, the drive mechanism includes a drive screw (404) that fits within and engages the internal threads of a plunger slide (405), and the drive screw (404) is coupled to the drive shaft (432) by the rotary shaft (501). Clearly, it would not be obvious to make this rotary shaft (501) non-circular in *McConnell*, because it would destroy the principal of operation of the “cylindrically-shaped,” screw-actuating drive mechanism.

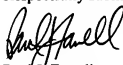
Claim 1 also recites, *inter alia*, a hollow cylindrical type push plate case inserted into the injector receiving space of the rear end of the syringe. As previously argued, the rear end of the syringe 406 in *McConnell* does not have inserted therein a hollow cylindrical type push plate case, as in Claim 1. Respectfully, the Examiner provided no response to this argument, either in a Response to Arguments section or in the body of the rejection, thus running afoul of the requirement of the M.P.E.P. to Answer All Material Traversed (see section 707.07(f)). In this regard, it is respectfully asserted that the finality of the Office Action was premature, and therefore improper.

Overall, *McConnell* operates differently than the invention claimed in Claim 1, and *McConnell* fails to teach all that is recited in Claim 1, for at least the foregoing reasons. Thus, the rejection is incorrect and should be withdrawn. Withdrawal thereof is respectfully requested.

Regarding the §103(a) rejections of Claims 2 and 5-6, while not conceding the patentability of the dependent claims, *per se*, it is respectfully asserted that Claims 2 and 5-6 are also patentable for at least the above reasons. Accordingly, and since the secondary references fail to cure the stated deficiencies in *McConnell*, the rejections under 35 U.S.C. §103(a) should be withdrawn. Withdrawal thereof is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1-6, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicants' attorney at the number given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul J. Farrell", written in a cursive style.

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